

Welcome NISE Network Partners !



NISE Network Regional Meeting

Fall 2013



NISE Network Regional Meeting

Fall 2013

**All Documents (Maps, PPTS, Improv
Guides) Available At:**

<http://tinyurl.com/SWNISE2013>

Regional Meeting Goals



1. Nurture and deepen **relationships** with existing partners in the NISE Network.
2. Provide valuable **networking opportunities** among workshop attendees, focusing on museum educators and outreach coordinators.
3. Create **opportunities for sharing** experiences with using NISE Net products.
4. Discuss ways to **sustain the benefits** of the NISE Network **after Year 10**.
5. Present an **update of NISE Net's resources**, including new programs, tools and guides, mini-exhibition, and mini-grants.

Regional Meeting Agenda – Day 1



- 9:00 Welcome and introductions
- 9:15 Improv Activity 1: *I Say Hi*
- 9:45 NISE Network update
- 10:30 Break
- 10:45 Mini-Grants: New Ideas for Doing Nano

- 12:00 Lunch and museum visit time

- 1:45 Improv Activity 2: *Nano Around the World*
- 2:15 Nano & Society Conversations
- 3:15 Break
- 3:30 Making the Most of Your NanoDays Kit
- 4:30 Inclusive Audiences Bilingual and Universal Design
- 5:30 Break
- 6:30 Group Dinner

Regional Meeting Agenda – Day 2

- 9:00 Improv Activity #3: *Red Ball*
- 9:15 Getting Nano into your building
(exhibitions, signage, partnerships)
- 10:15 Beyond Year 10 Discussion Part 1
- 11:00 Break/List completion
- 11:15 Beyond Year 10 Discussion Part 2
- 11:45 Meeting wrap-up

Regional Meeting Welcome




Introductions

Logistics

- restrooms
- Dropbox:
- Dropbox has slides, improv guides, and reimbursement forms
- Need help getting back to the Airport?
- Dinner tonight – Revival

Swap Table

Regional Meeting Agenda – Day 1

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Improv Exercise – *I Say Hi!*



More info: nisenet.org/catalog/tools_guides/improv_exercises

Why implement improv exercises ?

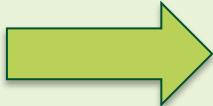


Incorporating improv exercises into staff and volunteer training helps create a supportive and upbeat environment for educators to practice and strengthen essential skills.

- **Warm up skills** required for interacting with visitors
- **Encourage conversations:** with visitors (rather than reciting scripts)
- **Be better listeners:** think on your feet and respond in the moment
- **Be responsive:** better tailor content to visitors responses and integrate visitor feedback
- **Be positioned as equals** with visitors not “the expert”
- **Foster teamwork & creativity:** create a fun, supportive, positive work environment to practice skills

More info: nisenet.org/catalog/tools_guides/improv_exercises

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Where can you

find nano?



NISE Network Overview

- Introduction
- Network Community
- Educational Products
- Professional Tools and Guides
- Upcoming Opportunities



NISE Network

Nanoscale Informal Science Education Network

The NISE Network is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology.



What is Nano?



1. Nano is small and different

Nanometer-sized things are very small, and often behave differently than larger things do.

2. Nano is studying and making tiny things

Scientists and engineers have formed the interdisciplinary field of nanotechnology by investigating properties and manipulating matter at the nanoscale.

3. Nano is new technologies

Nanoscience, nanotechnology, and nanoengineering lead to new knowledge and innovations that weren't possible before.

4. Nano is part of our society and our future

Nanotechnologies—and their costs, utility, risks, and benefits—are closely interconnected with society and with our values.

Year 6-10 Focus



Years 1-5: (2005-2010)

- Building the network

Years 6-10: (2010-2015)

- Engaging the public through the network



NISE Network: Goals



Network community: increase capacity in the field

- Support partners in engaging the public in nanoscale science, engineering, and technology
- Form partnerships among Informal Science Education institutions and research centers

Educational products: engage the public

- Develop and distribute educational products
- Raise public awareness and understanding of nano

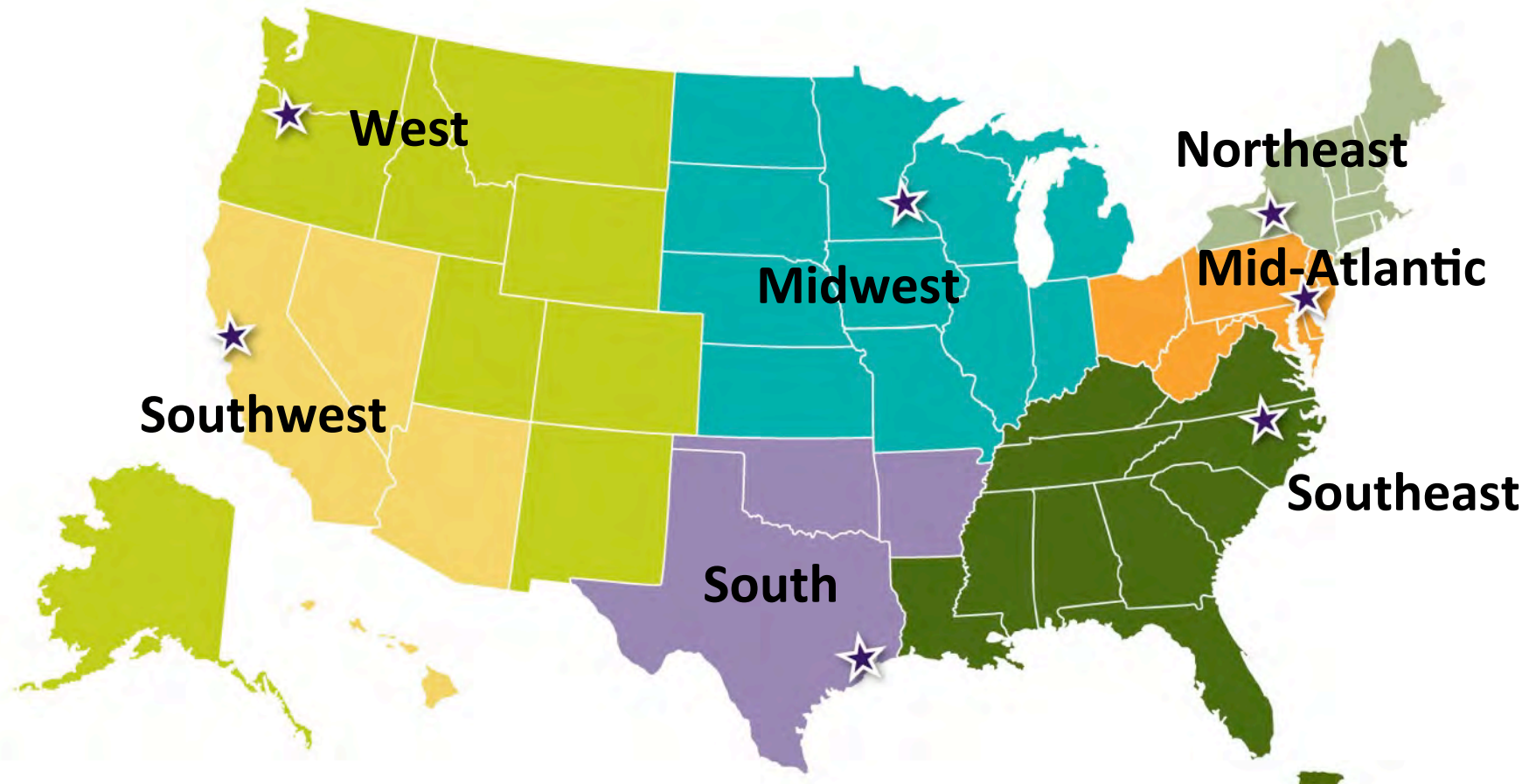
Knowledge: inform the field and future projects

- Generate and document learning through evaluation and research
- Communicate broadly in ISE and research fields

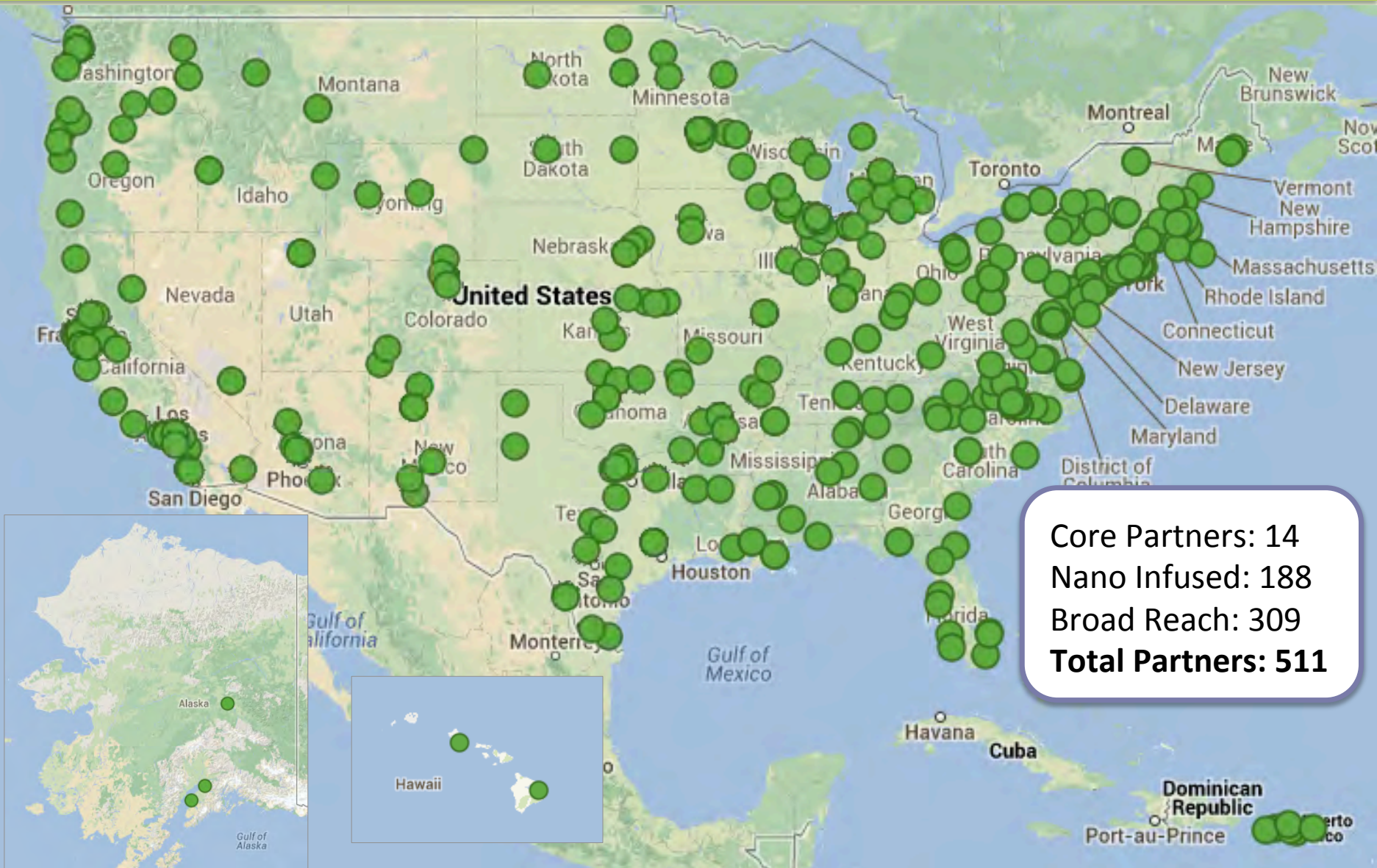


Network Community

NISE Net Regional Hub Structure



Partner Reach





Educational Products

- Product Development Process
- Website
- DIY Nano App
- *Nano* mini-exhibition
- New in catalog

Product Development Process



Iterative, collaborative development process:

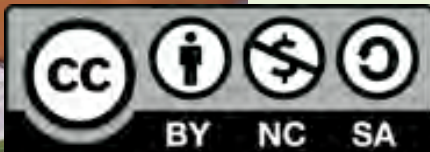
- ✓ Scientist review
- ✓ Peer review
- ✓ Visitor evaluation

Audiences and Content

- Content Map as a guide
- Inclusive audience approach

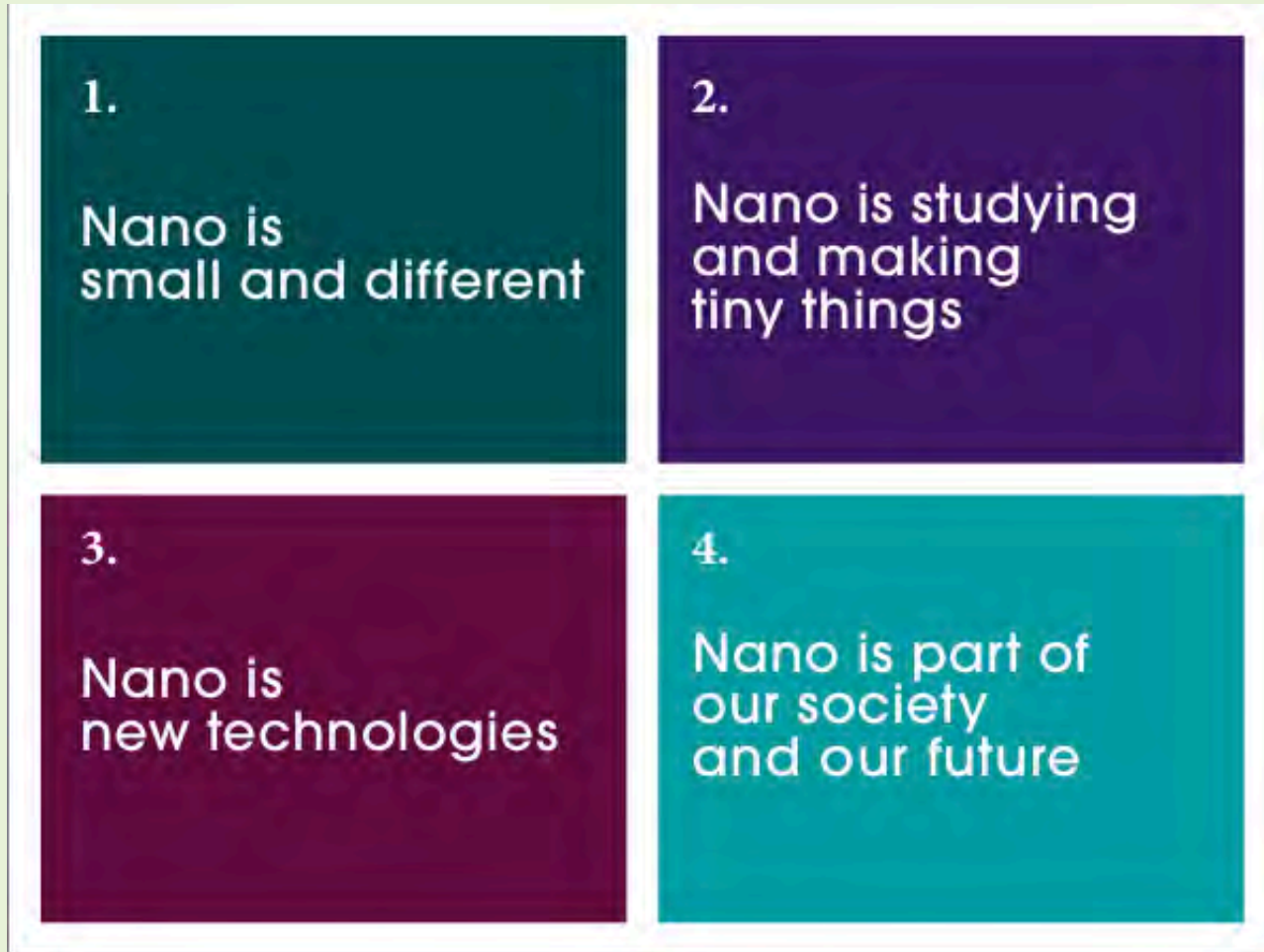
Designed for sharing

- Easily edited and adapted
- Creative Commons license



More info: [/nisenet.org/programs](http://nisenet.org/programs)

Content Map



Inclusive Audiences Approach



Spanish Bilingual materials:

- NanoDays materials and exhibits are available in both English and Spanish

Tools and Guides:

- Universal Design guidelines for programs and exhibits
- Bilingual graphic design
- Translation process guide

More info: [/nisenet.org/inclusive_audiences](https://nisenet.org/inclusive_audiences)

Website for educators - nisenet.org


[Site](#) [People](#) [Catalog](#)

HOME COMMUNITY CATALOG ABOUT WHAT IS NANO

Support | Log in | Sign up

Nanoscale Informal Science Education Network

The NISE Net is a national community of researchers and informal science educators dedicated to fostering public awareness, engagement, and understanding of nanoscale science, engineering, and technology.

Become a partner of the NISE Network. Learn how to get involved or sign up now.

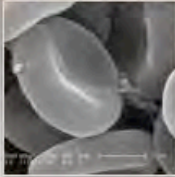
NanoDays

MARCH 30 - APRIL 7, 2013

Be sure to fill out your NanoDays 2012 online report by May 1st and be entered in our drawing!



Image Collection



Human Red Blood Cells (SEM)

Red blood cells carry a protein called hemoglobin which has a molecular structure adapted to transport oxygen to body tissues. This scanning electron micrograph shows the cells' characteristic donut-like shapes.

NISE Net News

NanoDays 2012 report - winners chosen

By Catherine McCarthy on May 22, 2012 | 0 comments

Two winners!
We have two randomly drawn winners who submitted their online NanoDays reports by the May 1st deadline. Both will be receiving additional educational materials to use with their visitors.

[Read more »](#)

DIY Nano App now available

By Catherine McCarthy on May 11, 2012 | 0 comments

Over 20,000 people have downloaded the new DIY Nano App!

[Read more »](#)

MRS Call for Papers- Deadline Approaching!

By KIC on May 24, 2012 | 0 comments

The 2012 MRS Fall meeting in Boston takes place November 25-30, but the deadline for abstract submission is just around the corner! All abstracts must be submitted by June 19th. Click here for more information on abstract submission guidelines and details about the meeting.

New in the Catalog



Select NISE Network educational products are now available in Spanish!

Media

DIY Nano App

The DIY Nano app allows families to experience and learn about nanoscale science, engineering, and technology at home! The app provides free hands-on activities. Each activity includes material lists, step-by-step instructions, and detailed explanations. The activity materials are easy to find, inexpensive to purchase, and you probably have many of them in your own home! Our app includes an extensive list of family friendly video links and helps you browse the [whatisnano.org](#) public website for more information, activities, and videos. The DIY Nano app was created by the Nanoscale Informal Science Education Network (NISE Net), funded by the National Science Foundation. NISE Net is dedicated to engaging all audiences with fun, educational activities about nano-..... Requirements: Compatible with iPhone 3GS, iPhone 4, iPhone 4S, iPod touch (3rd generation), iPod touch (4th generation) and iPad. Requires iOS 5.0 or later. [Read more »](#)

Programs

DIY Nano

These "Do It Yourself" Nano activities



nisenet.org

- Catalog of educational products
- News and events
- Member directory
- Social networking links



Website for educators - nisenet.org

Nanoscale Informal Science Education Network

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Become a partner of the NISE Network. Learn how to **get involved** or **sign up now**.

Catalog

- Programs
- Exhibits
- Tools and guides
- Media
- Image Gallery
- Evaluation & Research

NanoDays
The Biggest Event for the Smallest Science!

MARCH 30 - APRIL 7, 2013
The NanoDays 2013 physical kit application is now available - [Apply today!](#)



Image Collection



Human Red Blood Cells (SEM)

Red blood cells carry a protein called hemoglobin which has a molecular structure adapted to transport oxygen to body tissues. This scanning electron micrograph shows the cells' characteristic donut-like shapes.

NISE Net News [Blog](#) [Newsletter](#)

NanoDays 2013 kit applications - due December 1, 2012
By [Catharine McCarthy](#) on September 24, 2012 | 0 comments

Apply now for a NanoDays 2013 physical kit!
[Read more](#)

NanoDays
The Biggest Event for the Smallest Science!

Annual Partner Survey to launch in late October 2012
By [Catharine McCarthy](#) on September 24, 2012 | 0 comments

We are excited to announce that the NISE Net Annual Partner Survey will be launched in late October.

[Read more](#)



New in the Catalog [Catalog](#)

Español
Select NISE Network educational products are now available in Spanish!

Programs

Nano Future Tellers
Nano Future Tellers are origami-folded, interactive pocket game to educate visitors ages 7-12 about future nano products! Everyone's favorite fortune telling game brings potential future nano products to life! [Read more](#)

Programs

Scientist Speed Dating

Scientist Speed Dating is a facilitated, yet informal and high-energy, social activity to encourage a large group of people to speak with one another, ask questions, and learn about specific areas of research and practice within the field of nanoscale science and engineering, as well as the related societal and ethical implications of work in this field. [Read more](#)

Tools and Guides

Search the Catalog

Search the catalog by audience, topic, or season

The screenshot shows the NISE Network Catalog website. The header includes the NISE network logo and a search bar. The main navigation menu has links for HOME, COMMUNITY, CATALOG, ABOUT, and WHAT IS NANO. The left sidebar lists categories like Programs & Activities, Exhibits, Forums, Tools & Guides, Media, Research & Evaluation, and Table of Contents. The main content area is titled 'Catalog' and features a search bar, a 'Browse by' section, and a 'Keyword search' box. The 'Browse by' section is divided into 'Audience' and 'Nano topics'. The 'Audience' list includes: All ages (109), 7 and up (39), 11 and up (38), 15 and up (17), 19 and up (3), Informal science educators (25), and scientists (14). The 'Nano topics' list includes: Art and nature (71), Bio and medicine (73), Energy and environment (50), Fundamentals (132), Information Technology (47), Materials, tools, and applications (149), and Society, policy, and economics (64). Below the 'Browse by' section, there are sections for 'Activity' and 'Media'.

Browse by

Audience

All ages (109)
7 and up (39)
11 and up (38)
15 and up (17)
19 and up (3)
Informal science educators (25)
scientists (14)

Nano topics

Art and nature (71)
Bio and medicine (73)
Energy and environment (50)
Fundamentals (132)
Information Technology (47)
Materials, tools, and applications (148)
Society, policy, and economics (64)

Programs

Cart demonstration (25)
Classroom activity (25)
Display (2)
Facilitated activity (46)
Game (4)
Museum theater (4)
Stage presentation (16)

Available translations

Spanish (61)



Nano throughout the year!
Browse products by **season**.



Select NISE Network educational products are **now available** in Spanish!

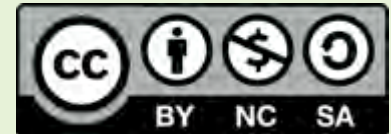
Find answers to your questions about the catalog on our [FAQ page](#).

Products in Catalog

NISE NET PRODUCT 

NISE Net Products

- Created with NISE Network funding
- Development process:
 - scientist review, peer review, & visitor evaluation
 - content map as a guide
 - inclusive audiences approach
- Designed to be easily edited and adapted under a Creative Commons license



LINKED RESOURCE ►

Linked resources

- Created with other funding
- Different vetting process
- Different rights ownership/attribution

Website for the Public

whatisnano.org

English Español

Home | NanoDays | Nano Exhibition

Nano is all around us—
in nature and in technology.

NanoDays
NanoDays is a nationwide festival of educational programs about nanoscale science and engineering and its potential impact on the future.
> Learn more

NanoBuzz
Current nano news:
join the conversation!

- Bio Flash Mob
Posted May 11, 2012
- Itty-bitty Art
Posted May 9, 2012
- The Iceman bleedeth
Posted May 3,

K-12 Teachers
Curriculum and activity resources for K-12 teachers to use in their classrooms.
> Learn more

Resources

Introductions Video Audio Games Products & Society Diff Nano

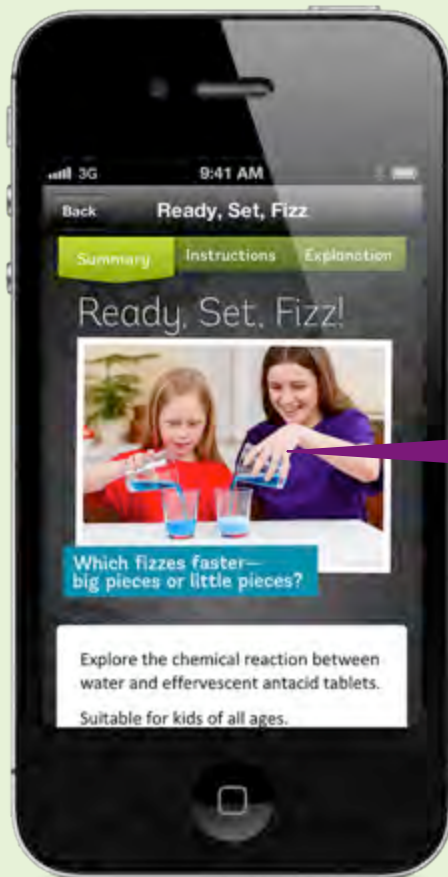
DIY nano
Downloadable from the iTunes store. Free.

- Invisible Sunblock**
What's in your sunblock? In this activity, kids find out why some mineral sunblock rubs in clear. Suitable for kids ages 5 and up. edit
- Rainbow Film**
How can you make rainbow colors out of clear nail polish? In this activity, kids use clear nail polish to create a beautiful iridescent pattern on black paper. Suitable for
- Mystery Sand**
Can sand keep itself dry? In this activity, kids play with surprising sand that doesn't get wet! Suitable for kids ages 3 and up. edit
- Mitten Challenge**
What's the right tool for the job? In this activity, kids try to put together toy bricks—wearing oven mitts on their hands! Suitable for kids ages 3 and up.

- Videos, podcasts, activities, links
- NanoDays locations
- List of mini-exhibition locations
- Audio Description in English and Spanish

whatisnano.org

DIY Nano App for iPhone and iPad



Activities to try at home



More info: whatisnano.org/diy-nano-app
nisenet.org/catalog/media/diy_nano



Website and DIY Nano App Reach

**DIY
nano**

Have fun investigating the nanoscale—the scale of atoms and molecules! Learn more about surprising properties, special tools, nano and nature, and consider how new technologies will change our society!



ACTIVITIES

Did you know nanoparticles can turn your skin blue?



VIDEOS

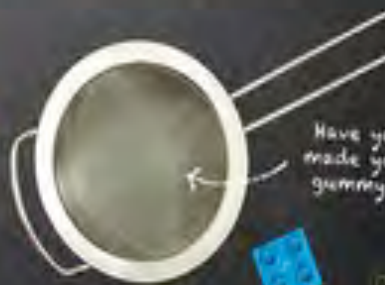


WHATISNANO.ORG

How hard is it to pour water out of a tiny teacup?



Have you made yo gummy?



**Website Visitors
nisenet.org**

12/2007-5/2013:

Total: 416,736

Unique: 281,432

**DIY Nano app
Downloads**

3/2012-8/31/2013:

iPhone: 45,000

iPad: 13,000

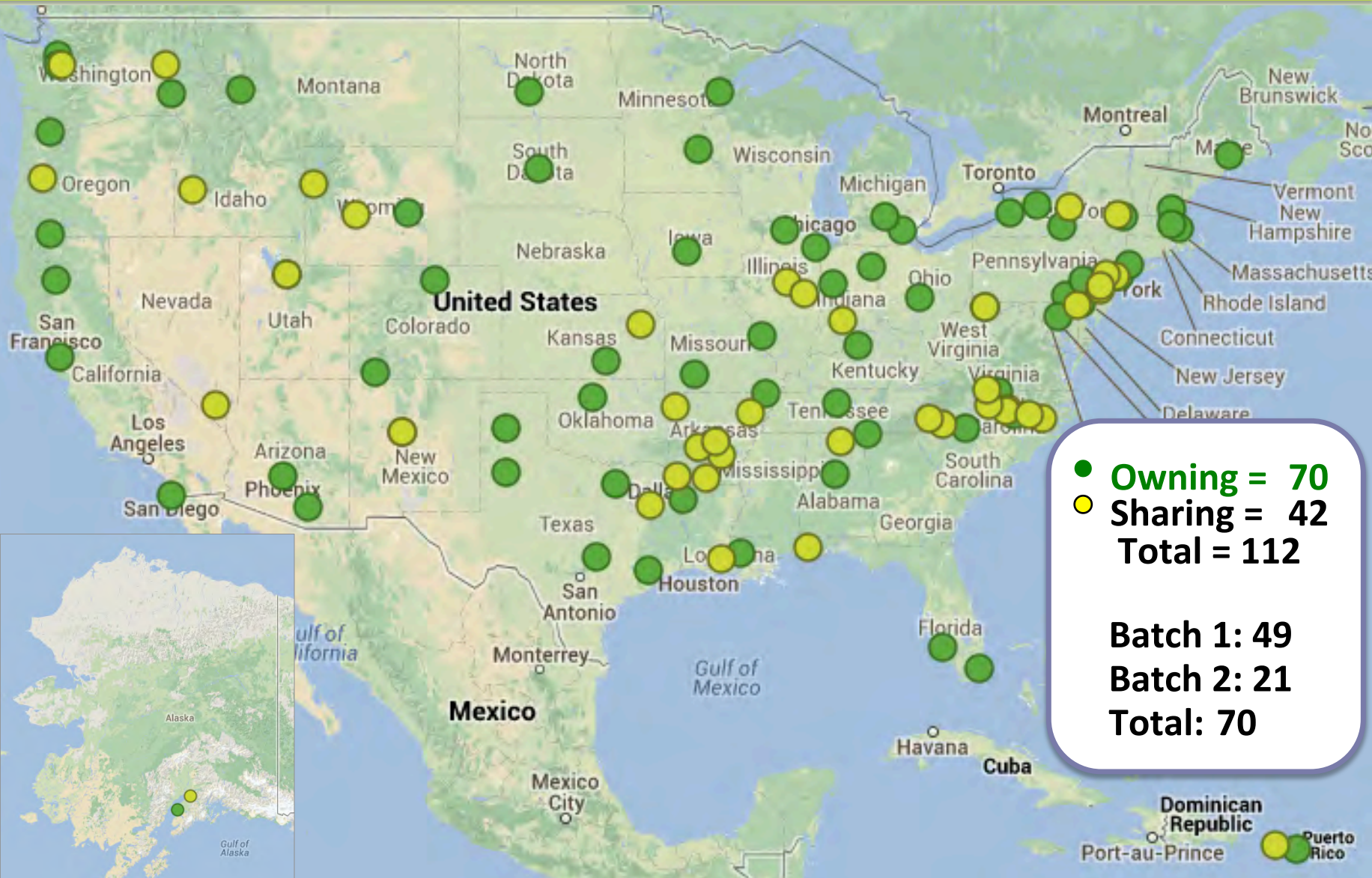
Nano Mini-exhibition



- Comprehensive content
- Small footprint: 400 square feet
- Flexible configurations, modular
- Bilingual – English & Spanish, accessible
- Making > 90 copies
 - Batch 1 = 49 copies (shipped in 2012-2013)
 - Batch 2 = 21 copies (will ship April – August 2014)
 - Batch 3 = 23 copies invitation process (ship 2015)

Waiting list for used copies
and possible sharing

Nano Mini-Exhibition Reach



Mini-exhibition around the country



Buffalo Museum of Science
Buffalo, NY



National Museum of Nuclear Science
and History, Albuquerque, NM



Da Vinci Science Center
Allentown, PA



Miami Science Center
Miami, FL



Saint Louis Science Center
Saint Louis, MO



Children's Museum of Houston
Houston, TX

Nano Mini-exhibition Public Impact



Summative Study Findings:

1. Reach is sizable and broad
2. Successful in:
 - Engaging visitors
 - Promoting learning
3. Successful for:
 - Different types of institutions
 - Small sample of Spanish-speaking visitors
 - Small sample of visitors with disabilities
4. Catalyzing new and enhanced programming



Nano Mini-exhibition Partner Impact



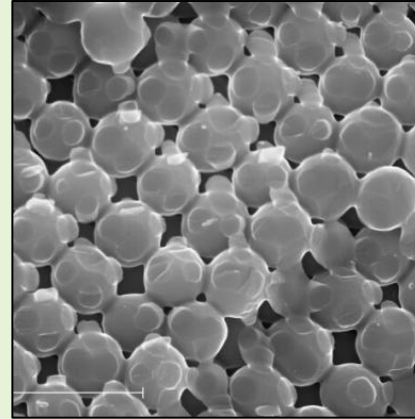
- 87% implementing new or expanded **public programming**
- 62% reported new and expanded **partnerships**
- Almost all partners have implemented new or expanded **staff and/or volunteer training**
- All plan to keep or share Nano **beyond the one-year commitment**, 52% said indefinitely
- Wide range of **impacts** described on visitors, staff, collaborations, and organizational

More info: nisenet.org/catalog/exhibits/nano_mini-exhibition

Programs - New in the Catalog



**Liquid Body
Armor**
Cart demo



**Colors at the
NanoScale:
Butterflies,
Beetles, and
Opals**
program



**Making
Molecular Movies
with QSTORM**
Public
presentation



**More
coming soon –
watch the
Nano Bite**

Media – for the public in the Catalog



**Mr. O video –
A Little bit of
Sunshine**



**Invisibility
Cloak**



**Mr. O video –
Liquid Armor**



**What's Nano
about that
series
(coming soon)**

Media – tools for educators



**NanoDays
Training Videos
2013**



**America's Next
Top Presenter
(coming soon)**



**NanoDays
Training Videos
2014
(coming soon)**



**Speed-Ucate
Visitor
Conversations
Video
(coming soon)**



Professional Tools and Guides

- Museum-Scientist Collaborations
- Team Based Inquiry

Later on agenda:

- Inclusive Audiences
 - Bilingual Audiences
 - Universal Design
- Nano and Society

Museum-Scientist Collaboration Tools



RISE: Research Center – Informal Science Education Partnerships

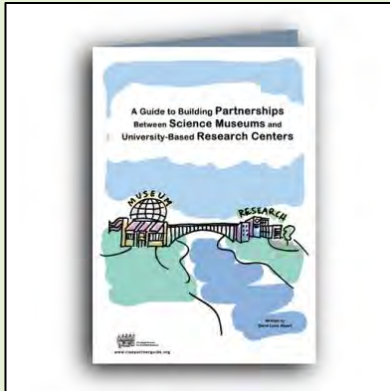
Encouragement, knowledge, and tools to support collaborations

Why Collaborate?

- Bring current science to museum audiences
- Connect scientists and students with the public
- Share resources and tools
- Mutual learning between scientists, museum educators, and the public

More info: nisenet.org/rise

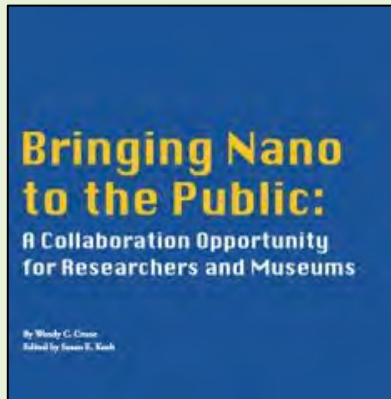
Museum-Scientist Collaboration Tools



Guide to Building Partnerships between Science Museums and University-Based Research Centers



National Chemistry Week collaborations
Oct 20-26, 2013



Bringing Nano to the Public
collaboration introduction

More info: nisenet.org/rise

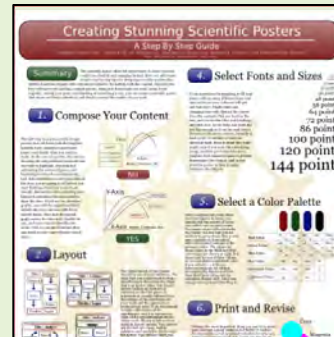
Science Communication Tools for scientists



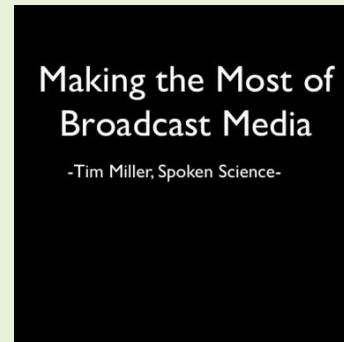
Science Communication Workshop
designed for Research Experiences for Undergraduates (REU) programs



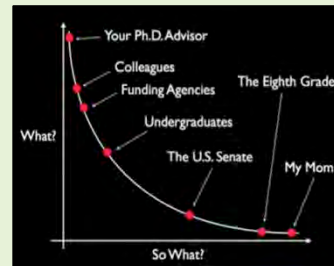
Sharing Science Workshop and Practicum
designed for scientists and students



Creating Stunning Scientific Posters Seminar



Making the Most of Broadcast Media Workshop



Mastering Science and Public Presentations Video



Upcoming Opportunities

- NanoDays
- Mini-grants
- Team-Based Inquiry Training
- Annual Partner Surveys
- And more!

NanoDays

NanoDays Applications
due **December 1, 2013**

- Annual event introducing the public to nanoscale science, engineering, and technology
- Involves hundreds of museums and universities over one week



NanoDays Reach and Impact



Reach:

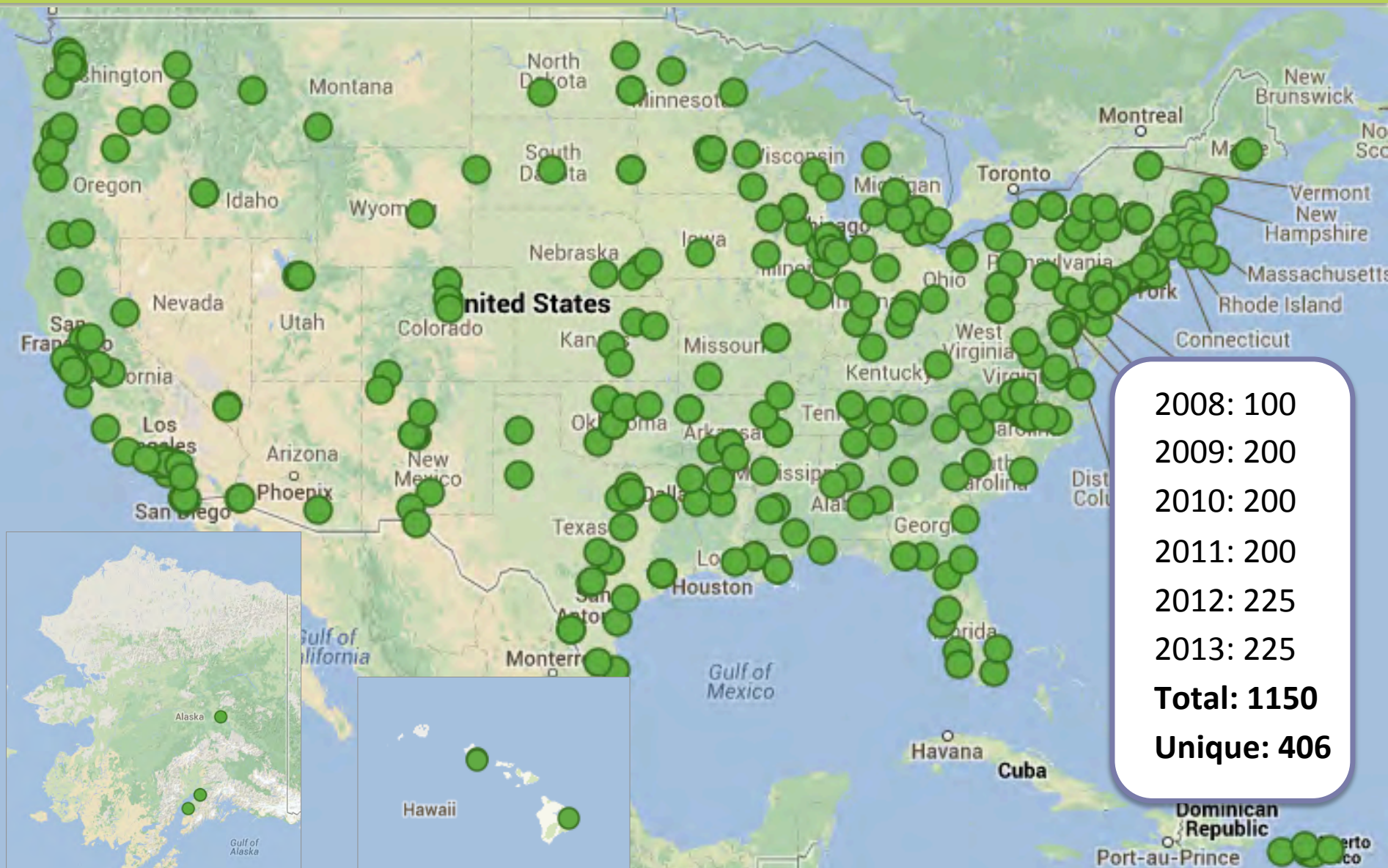
- 225 physical kits in 2013
- 250 kits in 2014 and 2015
- Digital kit and materials available free online

Impacts:

- Local collaborations: over 60%
- Year round use of kits: 100%
- Audience: nearly 100% family audiences

More info: nisenet.org/nanodays

NanoDays Reach



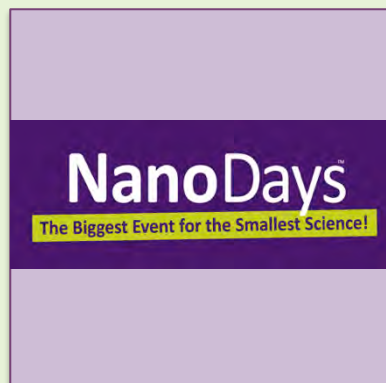
NanoDays 2014 kit

Applications are due
December 1, 2013



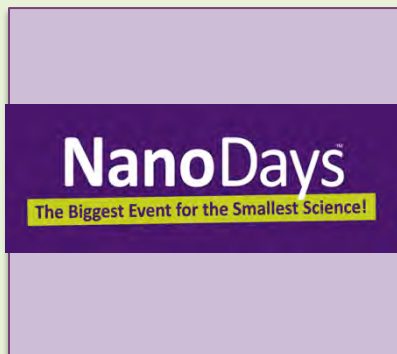
Training Videos for visitors & staff

- for each activity
- visitor conversations



Volunteer Survey

We'll be inviting all NanoDays volunteers across the nation to participate in a short online survey to learn about their volunteer experience



New activities

- Capillary Action
- Oobleck
- Piezoelectricity
- Electroplating

New Videos

- Invisibility Cloak
- more!



Online Brown-Bags

- What's Coming in the NanoDays kit
- Hosting a Bilingual NanoDays
- Science Behind NanoDays

NanoDays after 2015



Sustainability Plans

- Planning to create and distribute a compendium of all NanoDays activities (hard copy and digital)
- Continue to make NanoDays materials available online

Mini-Grants

Applications are due
November 1, 2013

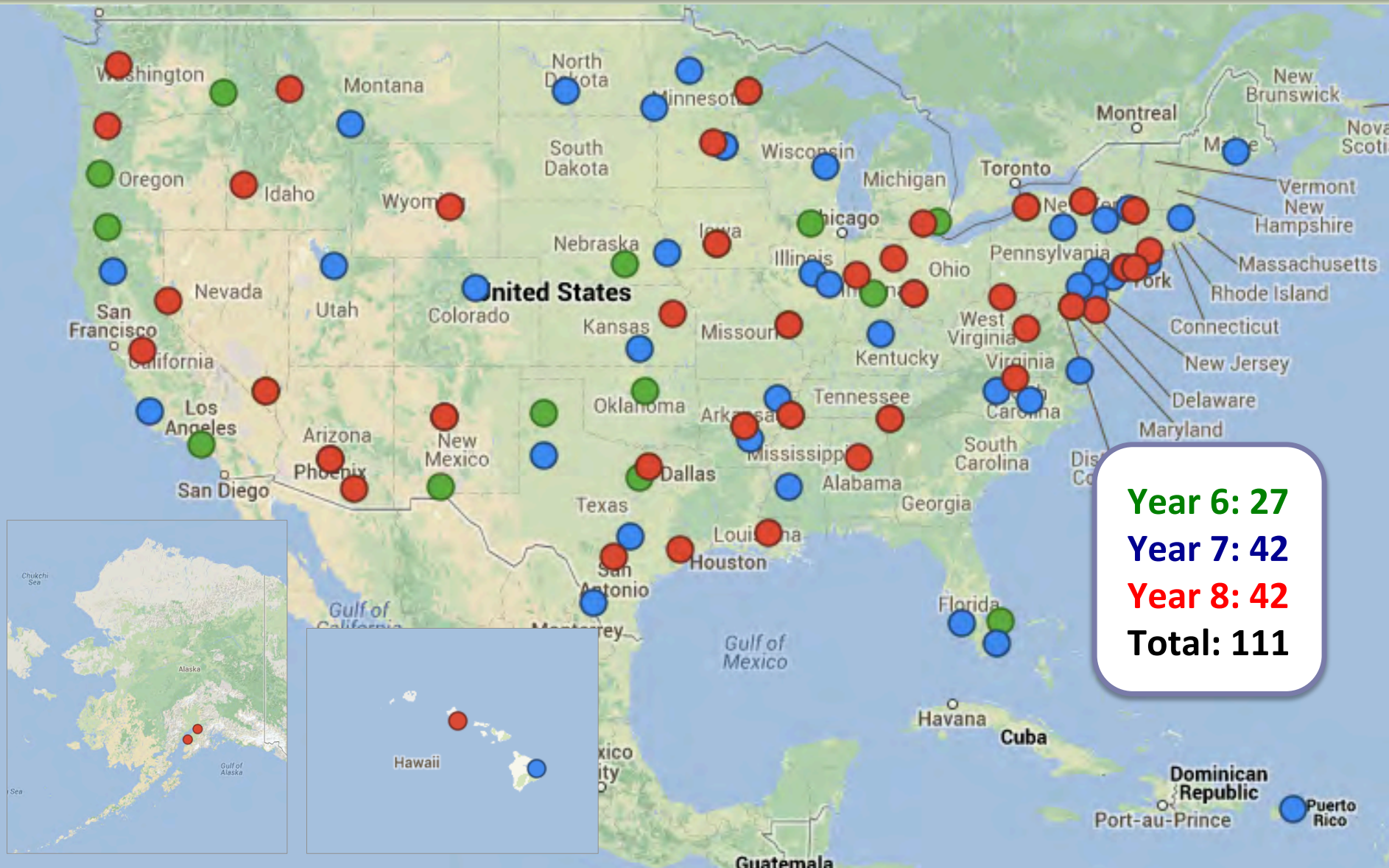


- 27 awards in 2011, 42 in 2012, 42 in 2013 anticipate 40 in 2014
- \$3,000 maximum
- Eligible activities:
 1. New efforts to integrate nano into existing programming
 2. New efforts to reach new audiences with nano programming (including traditionally under-served or under-represented audiences)
 3. New partnerships between museums and nano researchers, community--based organizations, or diversity serving organizations



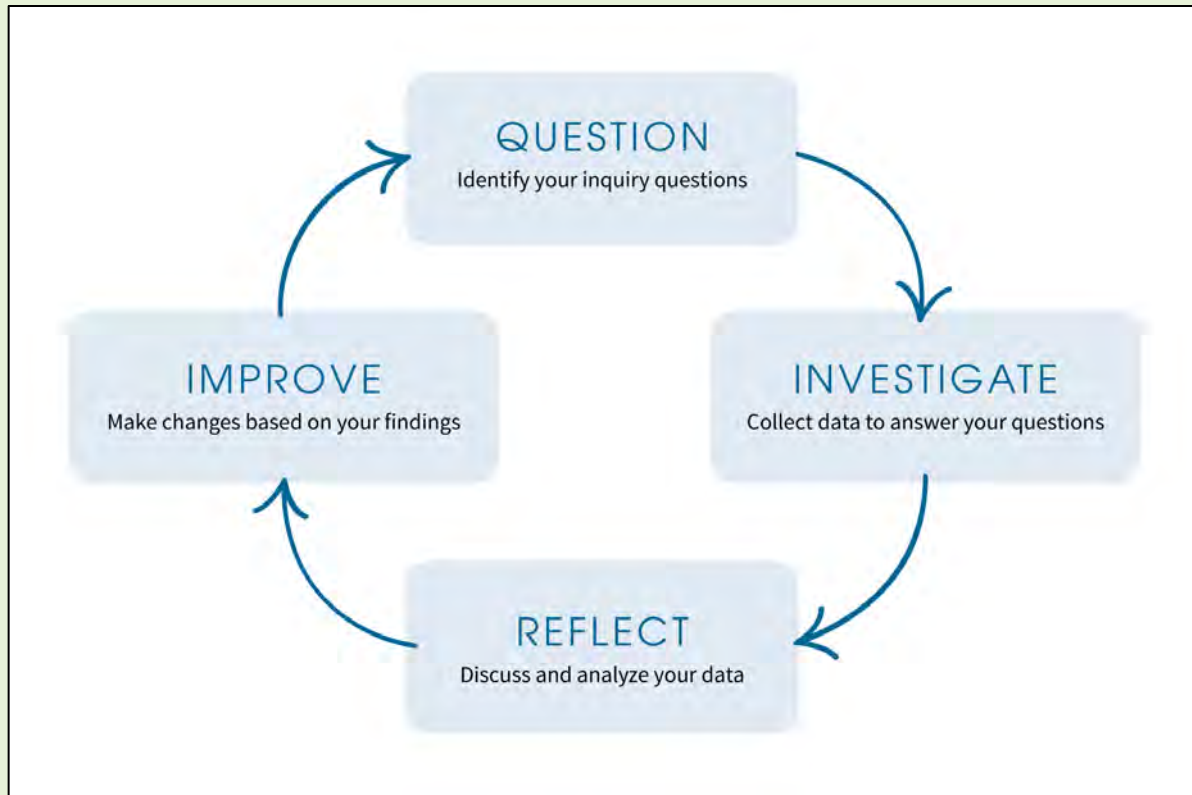
More info: nisenet.org/community/mini-grants

Mini-Grants Reach



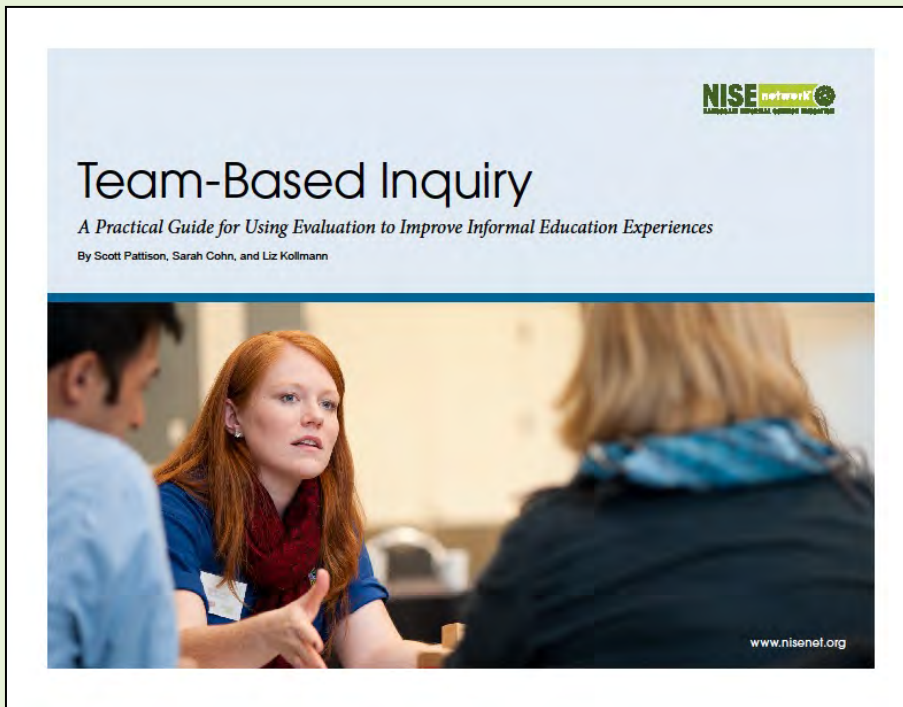
Team-Based Inquiry

TBI is an approach to empowering professionals to get the data they need, when they need it, in order to improve their products and practices and create successful educational experiences.



More info: nisenet.org/evaluation

Team-Based Inquiry Tools



Team-Based Inquiry Guide includes:

- Templates
- Observation forms
- Interview forms
- Worksheets
- Concrete examples

The guide will be included in the NanoDays 2014 physical kit

Team-Based Inquiry Professional Development



New Professional Development Opportunity

What? NISE Network is inviting a small number of partner institutions to participate in an intensive, seven-month professional development experience focused on team-based inquiry (TBI).

Team-Based Inquiry Professional Development



New Professional Development Opportunity

Why? The professional development will help institutions use TBI to incorporate evaluation and data-based decision-making into their nano education work.

Team-Based Inquiry Professional Development

The experience is offered at no charge but will require significant time from two staff members from January-July 2014:

- 1.5 hour phone call every two weeks
- 2 to 4 hours per month on professional development
- One-day workshop in Portland, Oregon, April 2014 (travel, lodging, & food covered by the NISE Net)

Participating will also impact the timeline of your mini-grant project:

- January-March 2014, participants learn about TBI and prepare for shared inquiry experience during NanoDays 2014
- April-July 2014, participants work on TBI studies at their own institutions specific to their mini-grant projects

*Participation will **NOT** affect selection process for mini-grant applications!*



More info: nisenet.org/community/mini-grants

Team-Based Inquiry Professional Development

How do I apply?

- Participants will be recruited through the **mini-grant application**.
- Indicate your organization's interest at the end of the application.
- Invitation e-mails will be sent out in January.

This opportunity is described in more detail in the **2014 Mini-Grants Program Overview**. Before indicating below if your organization is interested in participating, please read more about the opportunity and consider the timeline and required staff time commitment.

12. Would your organization like to be considered for this team-based inquiry professional development opportunity? *Your response to this question will NOT affect the selection and review process of your mini-grant application. **

Yes

No

Participation will **NOT** affect selection process for mini-grant applications!

Mini-grant application
due **November 1, 2013**

Evaluation and Research



Evaluation measures professional learning and practice, public learning, and Network growth.

- Professional Impacts
- Public impacts

Research studies provide the field with new knowledge and understanding

- Public Decision Making and Learning
 - Organizational Change
 - Museum – Scientist Partnerships
 - Nano in Traditional and Social media
-
- Find out what we have learned so far by visiting nisenet.org

More info: nisenet.org/evaluation

More info: nisenet.org/research

Help Us Learn – Annual Partner Survey



Help us to advance NISE Network and the field by participating in the Annual Partner Survey

Please fill out the survey when you receive an invitation

- even if you filled it out last year
- even if more than one person at your institution is filling out the survey

Survey invitation
via email in
October 2013

Professional Development Opportunities



- **ASTC (Association of Science-Technology Centers)**
October 2013 in Albuquerque
Sessions, booth, breakfast
pre-conference workshop on Team-Based Inquiry
- **Association of Children's Museums (ACM)**
May 2013 in Phoenix - sessions, booth
- **Materials Research Society (MRS)**
November 2013 in Boston & April 2014 in San Francisco
- **Online Brown-Bag conversations**
All year round, averaging one a month
Recorded and available to view online

More info: nisenet.org/community/events

Online Brown-Bag Conversations



All past brown-bags are recorded and available online.

This Fall:

- Nano for School Groups – October 1 11am PST by Rashmi and Lizzie
- Universal Design Program Workshop Follow-up – October 28
- Nano in Food – November 13 12pm PST by Frank

Coming Up Winter/Spring 2014:

- For NanoDays:
 - What's Coming in the NanoDays kit
 - Hosting a Bilingual NanoDays
 - Science Behind NanoDays (Lizzie and Rashmi)
- Nano for Summer Camps
- Nano and Society

More info: nisenet.org/community/events

Stay in Touch

Website networking tools



- Update your profile on the website
nisenet.org/faq
- Sign up for the monthly
Nano Bite newsletter
nisenet.org/community/nanobite
- Join our social networking sites
nisenet.org/community



Thank you!

To all our partners - we could not do this work without you!



This presentation is based on work supported by the National Science Foundation under Grant No. 0940143. Any opinions, findings, and conclusions or recommendations expressed in this presentation are those of the authors and do not necessarily reflect the views of the Foundation.

Questions & Discussion



Regional Meeting Agenda – Day 1

- 9:00 Welcome and introductions
- 9:15 Improv Activity 1: *I Say Hi*
- 9:45 NISE Network update
- 10:30 Break
- 10:45 Mini-Grants: New Ideas for Doing Nano
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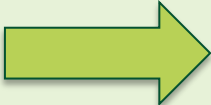


Mini-Grants

- Terry Lee Wells Nevada Discovery Musueum
- Hawaii Children's Discovery Center
- Discovery Childrens Museum Las Vegas
- Children's Museum Tucson
- Challenger Space Center, Arizona
- Ag Science Center

Applications are due
November 1, 2013


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Game – *Nano Around the World*



More info:

nisenet.org/catalog/programs/nano_around_world

Why implement improv exercises ?



Incorporating improv exercises into staff and volunteer training helps create a supportive and upbeat environment for educators to practice and strengthen essential skills.

- **Warm up skills** required for interacting with visitors
- **Encourage conversations:** with visitors (rather than reciting scripts)
- **Be better listeners:** think on your feet and respond in the moment
- **Be responsive:** better tailor content to visitors responses and integrate visitor feedback
- **Be positioned as equals** with visitors not “the expert”
- **Foster teamwork & creativity:** create a fun, supportive, positive work environment to practice skills

More info: nisenet.org/catalog/tools_guides/improv_exercises

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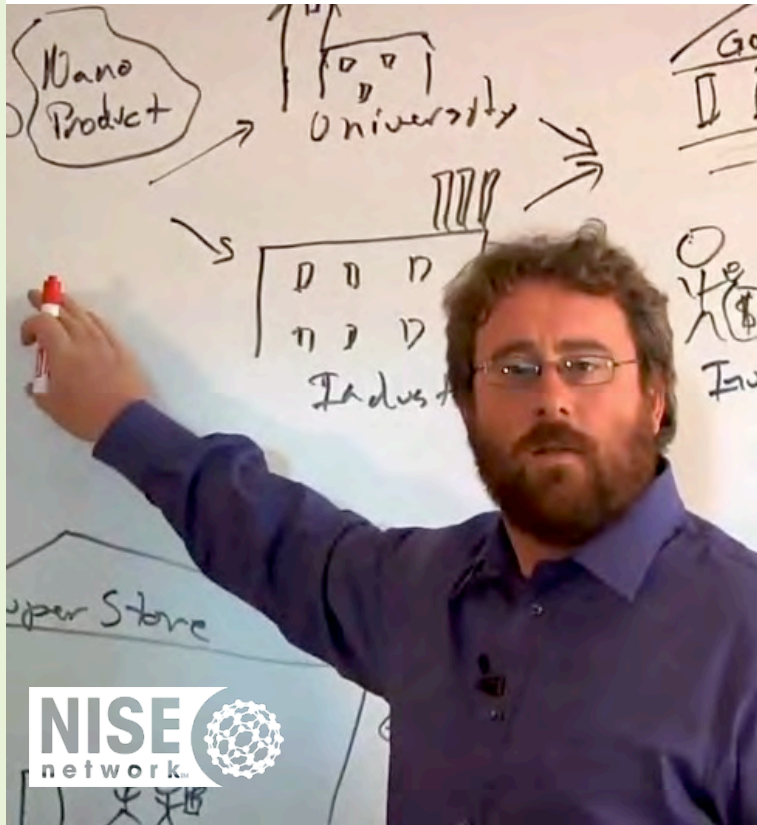
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Nano & Society Workshops

Set of four workshops in Fall 2012 focused on preparing museum educators to engage the public in conversations about the relationship between nanotechnology and society.



Nano & Society Three Big Ideas:

- Values shape technologies
- Technologies affect social relationships.
- Technologies work because they are part of larger systems.

Methods and practices for engaging The public:

- Conversational techniques for facilitating interactions with visitors.
- Team-based inquiry approaches to improving and learning from professional practice.

More info: www.nisenet.org/catalog/tools_guides/nano_society_training_materials

Nano & Society Activities



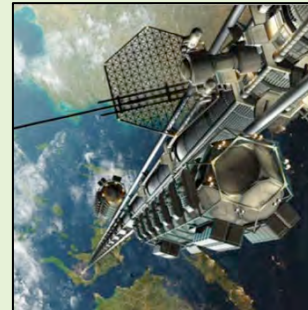
Nano Around the World card game



Exploring Nano & Society – Invisibility Cloak



Exploring Nano & Society – Flying Cars



Exploring Nano & Society – Space Elevator



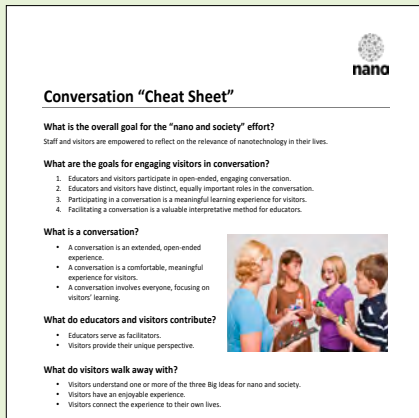
Exploring Nano & Society – Tippy Table



Exploring Nano & Society – You Decide!

More info: www.nisenet.org/catalog/tools_guides/nano_society_training_materials

Nano & Society Tools



Nano & Society training materials

- slideshows
- videos
- tip sheets
- team-based inquiry sheets



Improv Exercises for staff and volunteers



Technology & Society Guide
(coming in NanoDays 2014 kit)

More info: www.nisenet.org/catalog/tools_guides/nano_society_training_materials

More Nano & Society Programs & Activities



Would you buy that?
Public program



Societal and Ethical Implications Posters



Wonders and Worries of Nanotechnology
Video episodes



Forums:

- Nanomedicine
- Energy
- Privacy
- Who Decides?
- Cognitive Enhancement

More info: nisenet.org/catalog

Nano & Society Workshops - Share-outs

- Children's Museum of Tucson
- Terry Lee Well's Nevada Discovery
- Arizona Science Center
- Lawrence Hall of Science

(Attended, but presenters couldn't come: Reuben Fleet Science Center, San Diego, Turtle Bay Exploration Park)

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Making the most of your NanoDays Kit - Share-outs

Groups of 6

In your groups, talk about your NanoDays and use of NanoDays Kits.

Amongst your group, identify: (30-40 minutes)

- Innovative/Fun/Creative Uses of the NanoDays Kit
- Year Round Uses of the NanoDays Kit
- Identify Sustainable Uses (in terms of staff training, material re-supply/stretching them out) and Sharing Kits

Share Out (20 Minutes)

NanoDays Applications
due **December 1, 2013**

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Reaching Diverse Audiences



Inclusive Audiences

Raising our capacity to effectively engage underserved and underrepresented audiences

Why use an Inclusive Audiences approach?

- Museums are uniquely situated to educate the public, inspire youth, and provide access to learning experiences.
- Inclusive approaches help reach all audiences more effectively.
- It allows us to go beyond education and inspiration to empowerment and social justice.

Inclusive Audiences - Bilingual Audience Workshop



Workshop held in June 2013 in Houston

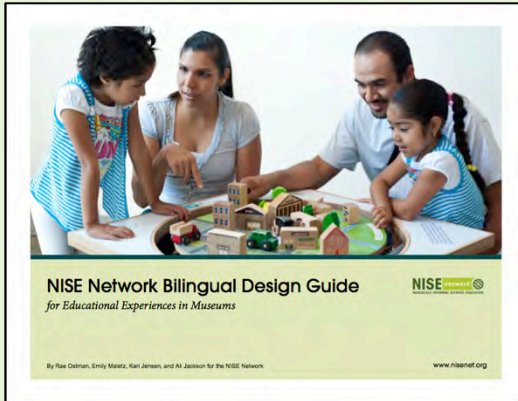
- Explored importance of engaging bilingual audiences in nanoscale science, engineering and technology
- Strategies to better engage Spanish speakers by building capacity, using techniques like:
 - sheltered instruction
 - team-based inquiry
 - marketing strategies

More info:

nisenet.org/catalog/spanish

nisenet.org/catalog/tools_guides/bilingual_audience_workshop_resources

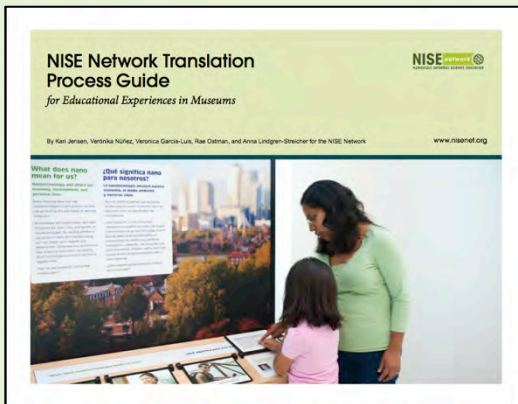
Inclusive Audiences - Bilingual Audience Tools



Bilingual Design Guide



Spanish Language Translations for many educational materials



Translation Process Guide



Bilingual Audience Workshop Resources

More info: nisenet.org/catalog/spanish

nisenet.org/catalog/tools_guides/bilingual_audience_workshop_resources

Inclusive Audiences - Bilingual Audience Tools

Spanish Language Translations

Email Print

Select NISE Network educational products are now available in Spanish!



Based on input from NISE Network partners, we have adapted our most popular programs for Spanish-speaking audiences! Follow the links below to explore Spanish versions of several NISE Network public programs, as well as other selected resources. We have placed the highest priority on translating products that directly serve public audiences. Professional resources, such as instructional materials and educator's guides are only available in English at this time.

Below are a set of products with Spanish translations of public materials

- Click on the **RESOURCE** tab
- Scroll down to the **SPANISH** files

Tools

- [Translation Process Guide](#)
- [Bilingual Design Guide](#)
- [NISE Net Bilingual Audiences Workshop](#)

Website

- Public website [WhatIsNano.org](#)

Videos

- [Intro to Nano Video: "Nanotechnology: What's the Big Deal?"](#)
- [NanoLab Video: "How Small is Nano?"](#)
- [NanoLab Video: "What Happens in a NanoLab?"](#)
- ["Nano and Me" videos: Aluminum, Gold, Gravity, Latex, Pants, and Silver](#)

Programs and Activities

- [Intro to Nano Cart Demo](#)
- [Sizing Things Down](#)

Browse by

Audience

[All ages](#) (109)
[7 and up](#) (39)
[11 and up](#) (38)
[15 and up](#) (17)
[19 and up](#) (3)
[Informal science educators](#) (25)
[scientists](#) (14)

Nano topics

[Art and nature](#) (71)
[Bio and medicine](#) (73)
[Energy and environment](#) (50)
[Fundamentals](#) (132)
[Information Technology](#) (47)
[Materials, tools, and applications](#) (148)
[Society, policy, and economics](#) (64)

Programs

[Classroom activity](#) (2)
[Display](#) (2)
[Facilitated activity](#) (46)
[Game](#) (4)
[Museum theater](#) (4)
[Stage presentation](#) (16)

Available translations
[Spanish](#) (61)



Nano throughout the year!
Browse products by [season](#).



Select NISE Network educational products are now available in Spanish!

Find answers to your questions about the catalog on our [FAQ page](#).

More info: nisenet.org/catalog/spanish

Bilingual Audience Workshop – Share-outs

- Rei Iriye, AZ Science Center
- Kelly Morton, Bay Area Discovery Museum
- Jennifer Phillips, Children’s Museum of Tucson
- Amparo Leyman: Bilingualist Extradinaire.

(Institutions who also went: Terry Lee Wells Nevada Discovery Museum)

Inclusive Audiences: Universal Design Workshop



What is Universal Design?

The design of products and environments to be usable **by all people**, to the greatest extent possible, **without the need for adaptation** or specialized design.

More info: nisenet.org/inclusive_audiences

Inclusive Audiences: Universal Design Workshop



July 2013 at Museum of Science, Boston

Audience: Museum Educators

Hands-on opportunity to apply Universal Design guidelines:

- Gathered feedback on NanoDays activities from experts with disabilities
- Used Team-Based Inquiry (TBI) approach
- Identified barriers & modified activities

Inclusive Audiences: Universal Design Tools



Universal Design Guidelines
for programs



Universal Design Workshop Resources



Universal Design Guidelines
for exhibits

More info: nisenet.org/inclusive_audiences

Universal Design Workshop– Share-outs

- Michele Laverty, Ag Science Center
- Becca Gladden, Challenger Space Center - Arizona

(And, Hawaii Children's Center couldn't attend because of Flossie.)

Regional Meeting Agenda – Day 1

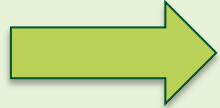
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Regional Meeting Agenda – Day 2



- 9:00 Improv Activity #3: *Red Ball*
- 9:15 Getting Nano into your building
(exhibitions, signage, partnerships)
- 10:15 Beyond Year 10 Discussion Part 1
- 11:00 Break/List completion
- 11:15 Beyond Year 10 Discussion Part 2
- 11:45 Meeting wrap-up

Improv Exercise – *Red Ball*



More info: nisenet.org/catalog/tools_guides/improv_exercises

Why implement improv exercises ?



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- **Warm up skills** required for interacting with visitors
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Getting Nano in Your Building – Share-outs

Groups of 8

How have you gotten Nano in your practice beyond the NanoDays Kit?


Each group will have (30-40 min):

- 1 person with a mini-exhibition, mini-grant, and someone from a research center.
- Discuss: Collaborations/Partnerships, Theater/Media, Products Created from Mini-Grants, Innovative Uses of Signage/Carts, Webinars, Virtual Visits
- What would you like to do/see in the future?

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Future: Beyond Year 10

Project funding
ends in ~ 2 years
(August 2015)

Future: What remains after Year 10



What remains after the funding ends?

- Field-wide capacity to engage the public in nanoscience, engineering, and technology
- Relationships, including collaborations between scientists and museums
- Ongoing use of NanoDays and program materials
- Mini-exhibition copies on museum floors
- Website - online catalog
- Evaluation and research knowledge
- Network lessons shared with field

Future:



How can we sustain
the benefits of the
NISE Network?

Future - Funding Scenarios After Year 10



Range of Scenarios

Scenario 1:

No additional funding

Scenario 2:

Some additional funding
for a core of activities

Scenario 3:

Funding for a new topic

Future – Individual Reflection & Share out

Scenario 1. No additional funding

- In the absence of any more funding, what would your institution be able to keep doing?
 - Are you taking any actions or pursuing any resources in the next two years to be able to continue nano education work in the years beyond the grant?
-
- How could the partners in this regional hub support each other's work moving forward? Which collaborations do you plan to initiate/continue and how will you sustain them?

What interest you the most?

Snacks & sticky dots

Scenario 2: Some additional funding for a core of activities

- If there was limited funding to support the NISE Network in the future, what activities would be most valuable to you?

- NanoDays physical kits
- NanoDays digital materials
- mini-grants
- exhibits
- regional hub structure
- in-person professional development
- online professional development
- new programs and media
- website with online catalog
- newsletter
- social networking (Facebook, LinkedIn, Twitter)
- other: _____

What interest you the most?

Snacks & sticky dots

Scenario 3:

Funding for a new topic

- If we could repurpose the network for another topic, what topics interest you the most?

- engineering
- climate change
- energy
- synthetic biology
- big data
- computer science
- convergent technologies (nano-bio-info-cogno)
- new emerging technologies
- societal and ethical implications
- nano is the only topic that interests me
- brain and neuroscience
- maker spaces
- other: _____

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Last Minute Logistics



Logistics

- reimbursement forms
- luggage
- airport rides
- swap table

THANK YOU!

To all our partners - we could not do this work without you!

